

Appl. No. : **10/770,739**
Filed : **February 3, 2004**

IN THE CLAIMS:

1. (Original) A building material, comprising:
a cementitious substrate having a first side and a second side;
at least one resin impregnated paper over at least one of said first and second sides; and
a stress-relieving elastomer between said cementitious substrate and said at least one resin impregnated paper, said elastomer acting as a stress relaxer between said cementitious substrate and said at least one resin impregnated paper.
2. (Original) The building material of Claim 1, wherein the elastomer is selected from the group consisting of polyurethane, acrylic, acrylic-styrene, polyester, polyether, polyvinyl and their modified films, epoxy, polyamide, polyimide, polysulfide, silicon based polymer and natural polymers.
3. (Original) The building material of Claim 1, wherein the elastomer is a polymeric film.
4. (Original) The building material of Claim 1, wherein the elastomer has an elongation between about 20% and 1200%.
5. (Original) The building material of Claim 4, wherein the elastomer has an elongation between about 100% and 1000%.
6. (Original) The building material of Claim 1, wherein the elastomer has a modulus of elasticity at 100% elongation of between about 10 and 10,000 psi.
7. (Original) The building material of Claim 6, wherein the elastomer has a modulus of elasticity at 100% elongation of between about 50 and 8,000 psi.
8. (Original) The building material of Claim 1, wherein the elastomer has a glass transition temperature between about -90 and 50°C.
9. (Original) The building material of Claim 1, further comprising an adhesive on a surface of the elastomer.
10. (Original) The building material of Claim 1, wherein the resin impregnated paper includes a cellulose paper penetrated with resin selected from the group consisting of melamine-formaldehyde and phenol-formaldehyde.

Appl. No. : 10/770,739
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11. (Original) The building material of Claim 1, wherein a resin impregnated paper is laminated to both said first and second sides.

12. (Original) The building material of Claim 1, comprising at least one layer of phenol-formaldehyde penetrated paper over the first side of the cementitious substrate, and at least one layer of melamine-formaldehyde penetrated paper over the at least one layer of phenol-formaldehyde penetrated paper.

13. (Original) The building material of Claim 1, wherein the elastomer is an adhesive.

14. (Original) The building material of Claim 1, wherein the elastomer provides sufficient stress-relief to prevent delamination between the cementitious material and the at least one resin impregnated paper after the laminated structure is incubated at a temperature of about 60°C for not less than three days.

15. (Original) The building material of Claim 1, wherein the elastomer provides sufficient stress-relief to prevent delamination between the cementitious material and the at least one resin impregnated paper after storing said laminated structure in a desiccated environment having a relative humidity of not more than 10% for a period of not less than two days.

16. (Original) The building material of Claim 1, wherein the elastomer provides sufficient stress-relief to prevent delamination between the cementitious material and the at least one resin impregnated paper after subjecting said laminated structure to at least five serial wet and dry cycles wherein said dry cycle comprises incubating said laminate structure for about twenty-four hours at about 60°C and said wet cycle comprises soaking said laminate structure in water for twenty-four hours.

17. (New) A building material, comprising:

a cementitious substrate having a thickness, a first side and a second side;

at least one resin impregnated paper over at least one of said first and second sides, each resin impregnated paper having a thickness;

a stress-relieving elastomeric film between said cementitious substrate and said at least one resin impregnated paper, said elastomer acting as a stress relaxer between said cementitious substrate and said at least one resin impregnated paper; and

at least one adhesive layer between said cementitious substrate and said at least one resin impregnated paper.

Appl. No. : **10/770,739**
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18. (New) The building material of Claim 17, wherein the at least one adhesive layer is deposited between the elastomeric film and the at least one resin impregnated paper.

19. (New) The building material of Claim 18, wherein the at least one adhesive layer is deposited between the cementitious substrate and the elastomeric film.

20. (New) The building material of Claim 17, wherein the thickness of the elastomeric film is about 5 mil or less.

21. (New) The building material of Claim 20, wherein the thickness of the elastomeric film is about 0.2 mil.